

GPS Calibration Report

Project : r2502calib

TIP Number	R2502	Date & Time	11:59:24 AM 8/1/03
User name	scranford	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	GEOID99 (Conus)
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum			
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	
Latitude	34°55'20.63321"N
Longitude	79°39'13.80534"W
Site Scale Factor	1.0001330980

The North Carolina Department of Transportation uses a **Localized Coordinate System** which is very similar to North Carolina Zone 3200 from which it is derived.

Please take care in utilizing these coordinates to eliminate confusion of the two systems.

This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center	477451.679sft
Easting coordinate of rotation center	1850096.836sft
Rotation about the center point	0°00'00"
Translation north	-0.011sft
Translation east	0.029sft
Scale factor	1.00000014

Vertical Adjustment Parameters

Northing coordinate of origin point	450387.519sft
Easting coordinate of origin point	1824778.879sft
Vertical separation at origin	0.014sft
Slope north	-1.296ppm
Slope east	0.541ppm

Geoid Model Definition

GEOID99 (Conus)

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.048sft	0.008	b3680-1 - WGS84
Vertical	0.037sft	0.005	GRANNY - WGS84
Three-dimensional	0.049sft	0.009	b3680-1 - WGS84

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	R2502-2 - WGS84	Northing	450387.519sft	Point	R2502-2 - Local
Latitude	34°59'09.93850"N	Easting	1824778.879sft	Northing	450387.526sft
Longitude	79°35'06.09010"W	Elevation	425.964sft	Easting	1824778.868sft
Height	321.965sft	Horz error	0.013sft	Elevation	425.948sft
		Vert error	0.016sft	Utilized	Horz and Vert
		3D error	0.020sft	Quality	Control quality
Point	R2502-3 - WGS84	Northing	456838.663sft	Point	R2502-3 - Local
Latitude	35°00'14.05722"N	Easting	1830255.718sft	Northing	456838.670sft
Longitude	79°34'00.71461"W	Elevation	431.721sft	Easting	1830255.708sft
Height	327.660sft	Horz error	0.012sft	Elevation	431.712sft
		Vert error	0.009sft	Utilized	Horz and Vert

		3D error	0.015sft	Quality	Control quality
Point	R2502-5 - WGS84	Northing	464867.052sft	Point R2502-5 - Local	
Latitude	35°01'33.59741"N	Easting	1832685.204sft	Northing	464867.058sft
Longitude	79°33'32.05509"W	Elevation	428.365sft	Easting	1832685.193sft
Height	324.373sft	Horz error	0.013sft	Elevation	428.366sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.013sft	Quality	Control quality
Point	R2502-1 - WGS84	Northing	448358.248sft	Point R2502-1 - Local	
Latitude	34°58'49.68521"N	Easting	1821667.443sft	Northing	448358.250sft
Longitude	79°35'43.33562"W	Elevation	410.376sft	Easting	1821667.433sft
Height	306.446sft	Horz error	0.010sft	Elevation	410.351sft
		Vert error	0.025sft	Utilized	Horz and Vert
		3D error	0.027sft	Quality	Control quality
Point	R2502-4 - WGS84	Northing	461797.618sft	Point R2502-4 - Local	
Latitude	35°01'03.15800"N	Easting	1831227.739sft	Northing	461797.620sft
Longitude	79°33'49.36924"W	Elevation	434.969sft	Easting	1831227.725sft
Height	330.967sft	Horz error	0.014sft	Elevation	434.967sft
		Vert error	0.002sft	Utilized	Horz and Vert
		3D error	0.015sft	Quality	Control quality
Point	R2502-6 - WGS84	Northing	466342.802sft	Point R2502-6 - Local	
Latitude	35°01'48.31562"N	Easting	1834898.933sft	Northing	466342.809sft
Longitude	79°33'05.53704"W	Elevation	428.281sft	Easting	1834898.922sft
Height	324.241sft	Horz error	0.013sft	Elevation	428.284sft
		Vert error	0.003sft	Utilized	Horz and Vert
		3D error	0.013sft	Quality	Control quality
Point	R2502-7 - WGS84	Northing	471189.894sft	Point R2502-7 - Local	
Latitude	35°02'36.69608"N	Easting	1843125.346sft	Northing	471189.895sft
Longitude	79°31'26.92992"W	Elevation	399.156sft	Easting	1843125.348sft
Height	294.934sft	Horz error	0.003sft	Elevation	399.160sft
		Vert error	0.004sft	Utilized	Horz and Vert
		3D error	0.005sft	Quality	Control quality
Point	R2502-8 - WGS84	Northing	473766.727sft	Point R2502-8 - Local	
Latitude	35°03'02.29854"N	Easting	1845373.675sft	Northing	473766.725sft
Longitude	79°31'00.05271"W	Elevation	373.265sft	Easting	1845373.684sft
Height	269.022sft	Horz error	0.009sft	Elevation	373.271sft
		Vert error	0.006sft	Utilized	Horz and Vert

		3D error	0.011sft	Quality	Control quality
Point	R2502-9 - WGS84	Northing	479036.219sft	Point R2502-9 - Local	
Latitude	35°03'54.80357"N	Easting	1853097.542sft	Northing	479036.209sft
Longitude	79°29'27.47041"W	Elevation	290.573sft	Easting	1853097.567sft
Height	186.207sft	Horz error	0.027sft	Elevation	290.581sft
		Vert error	0.008sft	Utilized	Horz and Vert
		3D error	0.028sft	Quality	Control quality

Point	R2502-10 - WGS84	Northing	480171.756sft	Point R2502-10 - Local	
Latitude	35°04'06.07060"N	Easting	1853838.160sft	Northing	480171.745sft
Longitude	79°29'18.62854"W	Elevation	362.097sft	Easting	1853838.192sft
Height	257.736sft	Horz error	0.033sft	Elevation	362.106sft
		Vert error	0.009sft	Utilized	Horz and Vert
		3D error	0.035sft	Quality	Control quality

Point	b3680-1 - WGS84	Northing	501326.848sft	Point b3680-1 - Local	
Latitude	35°07'36.06047"N	Easting	1870345.885sft	Northing	501326.831sft
Longitude	79°26'01.15653"W	Elevation	326.830sft	Easting	1870345.930sft
Height	222.601sft	Horz error	0.048sft	Elevation	326.821sft
		Vert error	0.009sft	Utilized	Horz and Vert
		3D error	0.049sft	Quality	Control quality

Point	b3680-2 - WGS84	Northing	502645.764sft	Point b3680-2 - Local	
Latitude	35°07'49.14918"N	Easting	1871372.484sft	Northing	502645.744sft
Longitude	79°25'48.86679"W	Elevation	327.624sft	Easting	1871372.515sft
Height	223.408sft	Horz error	0.037sft	Elevation	327.615sft
		Vert error	0.009sft	Utilized	Horz and Vert
		3D error	0.038sft	Quality	Control quality

Point	GRANNY - WGS84	Northing	504945.872sft	Point GRANNY - Local	
Latitude	35°08'07.61748"N	Easting	1794493.463sft	Northing	504945.871sft
Longitude	79°41'14.58424"W	Elevation	557.344sft	Easting	1794493.438sft
Height	455.370sft	Horz error	0.025sft	Elevation	557.381sft
		Vert error	0.037sft	Utilized	Horz and Vert
		3D error	0.044sft	Quality	Control quality

Point	FONCK - WGS84	Northing	539284.230sft	Point FONCK - Local	
Latitude	35°13'52.68559"N	Easting	1902434.556sft	Northing	539284.244sft
Longitude	79°19'36.36436"W	Elevation	332.786sft	Easting	1902434.523sft
Height	228.717sft	Horz error	0.036sft	Elevation	332.762sft
		Vert error	0.024sft	Utilized	Horz and Vert

3D error	0.043sft
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Quality	Control quality
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Point	RAEFORD 000 - WG
Latitude	35°00'57.62491"N
Longitude	79°11'39.30725"W
Height	182.719sft

Northing	460815.806sft
Easting	1941857.951sft
Elevation	290.000sft
Horz error	0.025sft
Vert error	0.026sft
3D error	0.036sft

Point	RAEFORD 000 - Lo
Northing	460815.822sft
Easting	1941857.932sft
Elevation	290.026sft
Utilized	Horz and Vert
Quality	Control quality